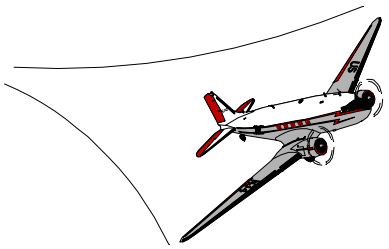
SPECIAL AIRWORTHINESS INFORMATION BULLETIN



U.S. Department of Transportation

Federal Aviation Administration

Aircraft Certification Service
Washington, DC

No. SW-02-12
January 24, 2002

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This is information only. Recommendations are not mandatory.

INTRODUCTION

This Special Airworthiness Information Bulletin (SAIB) provides you, an owner or operator of **Bell Helicopter Textron, Inc. (Bell) Model 212 helicopters**, information concerning the Bell Model 212 main rotor grips. The part numbers for the grips are 204-011-121-9 and 204-011-121-121.

BACKGROUND

In the last two years, there have been four incidences of cracked main rotor grips. These cracks originated in the lower tang blade bolt bore. No fatalities have resulted.

Two of the recent cracked grips were discovered in September and October 2001 during a 1,200-hour inspection and on a scheduled 2,400-hour overhaul. One of the other two grips had an in-flight failure caused by fatigue cracking in the lower blade bolt tang and the other cracked grip was found during a daily preflight inspection. Two of the grips were the *–121 configuration* with the latest design improvements and two of the grips were the *–9 configuration*.

Laboratory investigations have determined that three of the grips cracked as the result of subsurface fatigue origins in the blade bolt bore. No anomalies or damage to the blade bolt bore or buffer pad tang surface (manufacturing defects, mechanical damage, corrosion, etc.) were discovered during the investigations which could have lead to the premature cracking. No signs of overloading or other phenomena were determined either. The fatigue origin for the fourth grip was caused by mechanical damage from installation blade bolt bushing that was not aligned. Chatter marks were present for approximately 130 degrees on the circumference causing deformation and tearing.

These four recent cracked grips bring the total to 11 main rotor grips that have cracked in the lower blade bolt tang. Two of these were the –121 configuration. Cracking has been attributed to mechanical damage from improper blade bolt bushing installation, improper rework of the buffer pad tang surface, and from subsurface fatigue damage. All of the part failures have occurred on grips installed on Bell Model 212 helicopters.

The hours time-in-service for the –9 grips ranged from 1,235 to 4,579 and greater. The hours time-in-service for the –121 grips were 977 and 2,373. The part currently does not have a life limit for use on the Bell Model 212 helicopter.

Bell released Alert Service Bulletin (ASB) 212-94-92, revision A, dated March 13, 1995, which pertains to cracking problems in the lower grip tang. This ASB establishes a 25-hour inspection; a 1,200-hour special inspection to be performed in conjunction with the tension-torsion strap; and additional grip inspection requirements to the 2,400-hour overhaul. The ASB may be obtained from the manufacturer at Bell Helicopter Textron, Inc., P.O. Box 482, Fort Worth, Texas 76101, telephone (817) 280-3391, fax (817) 280-6466.

RECOMMENDATION

The FAA and Bell Helicopter are continuing the field investigation to determine the best course of action to ensure continued aircraft safety, which will have the minimum impact on the operators.

We highly recommend that you continue to perform the requirements of ASB 212-94-92.

FOR FURTHER INFORMATION CONTACT

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